

REMARKS

Reconsideration of this application is respectfully requested.

Independent claim 1 is directed to an assembly which includes contacts which are operable between actuated and unactuated conditions. A switch actuation mechanism is operable between first and second conditions to effect operation of the switch contacts between the actuated and unactuated conditions. The cam block has a surface with a first portion which is engaged by a cam follower when the switch contacts are in the unactuated condition and a second portion which is engaged by the cam follower when the switch contacts are in the actuated condition. A first force transmitting pin extends between a push button and the cam block to transmit force from the push button to the cam block. A second force transmitting pin extends between the cam block and the switch actuation mechanism to transmit force from the cam block to the switch actuation mechanism. The cam block and first and second force transmitting pins are integrally formed as one piece.

The prior art, and particularly the patents to Stevens (3,315,535) and Olson (4,001,526), do not disclose a cam block and first and second force transmitting pins which are integrally formed as one piece. In the patent to Stevens, a pin 54 extends through a lamp board 46 (Figs. 2 and 3) into a cam block 86 (Fig. 1). The cam block 86 has a central opening 92 (Fig. 6) in which the pin 54 is received. A second pin 96 (Fig. 6) extends from the cam block and engages a snap action

mechanism 20 (Fig. 3). The pin 54, cam block 86 and pin 96 of Stevens are not integrally formed as one piece in the manner set forth in claim 1.

If the pin 54, cam block 86 and pin 96 of Stevens were integrally formed as one piece, it would be impossible to assemble the switch mechanism of Stevens. This is because the pin 52 extends through the lamp board of Stevens. In Exhibit A, the pin 54, cam block 86 and pin 96 have been colored red. The lamp board 46 has been colored blue. The pin 54 is fixedly connected to the sheet metal retainer 56. In order to assemble the switch mechanism of Stevens, it is necessary to telescopically insert the pin 54 through the opening at 52 in the lamp board 46. If the pin 54 was integrally formed as one piece with the cam block 86 of Stevens, it would be impossible to move the pin 54 through the opening 52 in the lamp board 48. Therefore, it would be impossible to assemble the switch mechanism of Stevens.

If, in some way that is not disclosed in the patent to Stevens, the switch mechanism was assembled with the pin 54, cam block 86 and pin 96 of Stevens integrally formed as one piece, it would be impossible to gain access to the lamps 44 on the lamp board 46 without ripping the switch mechanism of Stevens apart. This is because the sheet metal retainer 56 is fixedly connected to one end of the pin 54 and the cam block 86 would be fixedly connected to the other end of the pin 54 so that the sheet metal retainer 56 could not be withdrawn from the housing 36 of Stevens.

In the absence of applicant's disclosure, there is no reason to form the pin 54, cam block 86 and pin 96 of Stevens as one piece in the manner set forth in

claim 1. This is because if the pin 54, cam block 86 and pin 96 of Stevens were integrally formed as one piece, it would be impossible to: (1) assemble the switch mechanism of Stevens and (2) service the lamps 44 of Stevens. In the absence of applicant's disclosure a person of ordinary skill in the art would not find it obvious to construct the switch mechanism of Stevens in such a manner as to make it impossible to assemble a switch mechanism and to service the lamps 44 in the switch mechanism. It is only by forming the pin 54 separately from the cam block 86 and pin 96 of Stevens that the switch mechanism can be assembled and that the lamps 44 can be serviced once the switch mechanism is assembled.

Claims 2 through 11 depend from claim 1 and define over the prior art for substantially the same reasons as does claim 1 and by virtue of the structure and function set forth in these claims taken in combination with the structure and function of claim 1. Specifically, claim 2 sets forth a switch actuation mechanism as including a first actuator member. The first actuator member includes a main section and first and second bearing sections. The bearing sections have cylindrical bearing surfaces extending from the main section to support the first actuator member for pivotal movement relative to the housing about a first axis which is coincident with central axis of the first and second cylindrical bearing surfaces. The first main section and first and second bearing sections are integrally formed as one piece.

In addition, claim 2 sets forth a second actuator member having a second main section and third and fourth bearing sections. The third and fourth bearing sections have cylindrical bearing surfaces which extend from the second main

section to support the second actuator member for pivotal movement relative to the housing about a second axis which is coincident with central axis of the third and fourth bearing members. The second main section and third and fourth bearing sections are integrally formed as one piece.

In addition, claim 2 sets forth a spring which extends between the first and second actuator members. The spring is effective to press the first main section of the first actuator member against the second force transmitting pin. The spring is also effective to apply force against the second actuator member to pivot the second actuator member about the second axis.

Claim 2 defines over the prior art, and particularly the patents to Stevens and Olson, by setting forth the first main section and first and second bearing sections of the first actuator member as being integrally formed as one piece. Claim 2 further defines over the patents to Stevens and Olson by setting forth the second main section and third and fourth bearing sections of the second actuator member as being integrally formed as one piece. In the patent to Stevens, the actuating arm 26 does not have cylindrical bearing surfaces in the manner set forth in claim 2. It appears that in the patent to Stevens that the actuating arm 26 has an end portion which pivots in a notch formed in a leg 14 (see Figs. 2 and 3 of Stevens). The switch button actuator 24 of Stevens pivots about unnumbered pins which are fixedly connected to the legs 14 of the housing of Stevens.

Claim 3 depends from claim 2 and sets forth the switch actuation mechanism as being a snap action mechanism which effects operation of the switch contacts between actuated and unactuated conditions with a snap action.

The first actuator member is formed from a first piece of polymeric material. The second actuator member is formed by a second piece of polymeric material. There is nothing in the patent to Stevens which even remotely suggests that the actuating arm 26 and/or switch button actuator 24 are to be formed of polymeric material in the manner set forth in claim 3.

Claim 4 depends from claim 1 and sets forth an annular groove an end portion of the force transmitting pin and a flange as being connected with the push button. The flange is disposed in engagement with the groove and the end portion of the force transmitting pin to interconnect the push button and the force transmitting pin. The patent to Olson does not disclose an annular groove in the manner set forth in claim 4.

Claim 5 depends from claim 1 and sets forth a casing as being disposed within the housing. A support pin is integrally formed as one piece with a wall and extends outward from a wall of the casing. The cam follower includes a helical coil section which extends around the support pin. A follower arm extends from the helical coil section into engagement with the cam surface. A base arm extends from the helical section and engages the casing.

Claim 6 depends from claim 5 and sets forth the follower arm as having a main section and an end section. The end section extends perpendicular to the main section of the follower arm and engages a cam surface. The base arm has a main section and an end section which engages the casing. The end section of the follower arm and the end section of the base arm have central axis which extend parallel to a central axis of the support pin.

Claim 7 depends directly from claim 1 and sets forth a plurality of solid state light sources as being electrical energizable to provide illumination. A printed circuit is connected with the switch contacts and the push button. A plurality of electrical circuit components are mounted on the printed circuit at a location between the push button and the switch contacts.

Claim 7 was rejected as being unpatentable over a combination of the patents to Stevens (3,315,636), Olson (4,001,526), and Hart (5,659,162). In the absence of applicant's disclosure, there is no reason to combine the various mechanisms disclosed in these three patents. The mechanisms disclosed in the patent to Olson differs substantially from the mechanisms shown in either the patent to Stevens or Hart. In addition, the mechanism of Hart differs from the mechanism shown in the patent to Stevens. The only suggestion for combining these diverse mechanisms must have originated from applicant's own application. None of these references discloses a printed circuit which is connected with switch contacts and a push button and on which a plurality of electrical components are mounted. Furthermore, these references do not disclose a printed circuit on which electrical components are mounted at a location between a push button and switch contacts.

Claim 8 depends from claim 7 and sets forth the first force transmitting pin as extending through an opening formed in the printed circuit. The opening is disposed at a location between the push button and the cam block. Even if it is assumed that it would be obvious to combine the disclosures in the patents to Stevens, Olson and Hart, none of these references discloses a force transmitting

pin which extends through an opening formed in a printed circuit at a location between a push button and a cam block. Therefore, it is clear that a combination of these three references can not disclose such a concept.

Claim 9 depends from claim 7 and sets forth a printed circuit as having a first major side surface which faces toward the housing and a second major side surface which faces away from the housing. At least a portion of the electrical circuit components are disposed on the first major side surface of the printed circuit.

Claim 10 depends from claim 7 and sets forth the housing as having a plurality of side walls disposed in a rectangular array. The printed circuit includes a main section and first and second arm sections. The main section of the printed circuit has a first end portion disposed adjacent to the main switch contacts, a second end portion disposed adjacent to the push button and an intermediate portion which extends between the first and second end portions. The intermediate portion is disposed along a first side wall of the plurality of side walls of the housing. The first arm section of the printed circuit extends from the main section of the printed circuit and is disposed along second and third side walls of the plurality of side walls. The second arm section of the printed circuit extends from the main sections and is disposed along a fourth side wall of the plurality of side walls and is disposed along the third side walls of the plurality of side walls. The prior art does not disclose a printed circuit which has this relation to side walls of a housing.

Claim 11 depends from claim 10 and sets forth a first portion of the electrical circuit components as being mounted on the intermediate portion of the main section of the printed circuit. A second portion of the electrical circuit components are mounted on the first arm section of the printed circuit. A third portion of the electrical circuit components are mounted on the second arm section of the printed circuit. The prior art does not disclose electrical circuit components mounted on portions of a printed circuit in the manner set forth in claim 11.

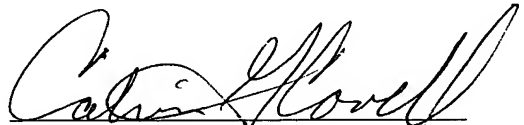
Independent claim 27 is directed to an assembly which includes switch contacts at least partially disposed in a housing. The switch mechanism is operable between first and second conditions to effect operation of the switch contacts between actuated and unactuated conditions. A manually engagable push button includes a plurality of light sources which are connected with the push button for movement with the push button relative to the housing. A force transmitting apparatus extends between the push button and switch actuation mechanism to transmit force to the switch actuation mechanism. A printed circuit is connected with the switch contacts and the light sources. The printed circuit includes a flexible portion which is deflected by movement of the push button. The flexible portion of the printed circuit includes an opening through which the force transmitting apparatus extends.

The prior art, and particularly the patent to Stevens, does not disclose a printed circuit having a flexible portion with an opening through which a force transmitting apparatus extends.

Claim 28 depends from claim 27 and sets forth the force transmitting apparatus as including a first force transmitting pin connected with the push button. A cam block is integrally formed as one piece with the first force transmitting pin and a second force transmitting pin. The first and second force transmitting pins and the cam block are movable relative to the housing under the influence of force transmitted from the push button to effect operation of the switch actuation mechanism.

In view of the foregoing remarks, it is believed that the claims in this application clearly and patentably define over the prior art. Therefore, it is respectfully requested that the claims be allowed and this application passed to issue. If for any reason the Examiner believes that a telephone conference would expedite the prosecution of this application, it is respectfully requested that the Examiner call applicant's attorneys in Cleveland, Ohio at 621-2234, area code 216. Please charge any deficiency in the fees for this application to our Deposit Account No. 20-0090.

Respectfully submitted,


Calvin G. Covell
Reg. No. 24,042

CUSTOMER NUMBER: 26,294

TAROLLI, SUNDHEIM, COVELL, & TUMMINO L.L.P.
526 Superior Avenue, Suite 1111
Cleveland, Ohio 44114-1400
Phone: (216) 621-2234
Fax: (216) 621-4072

:37686.1

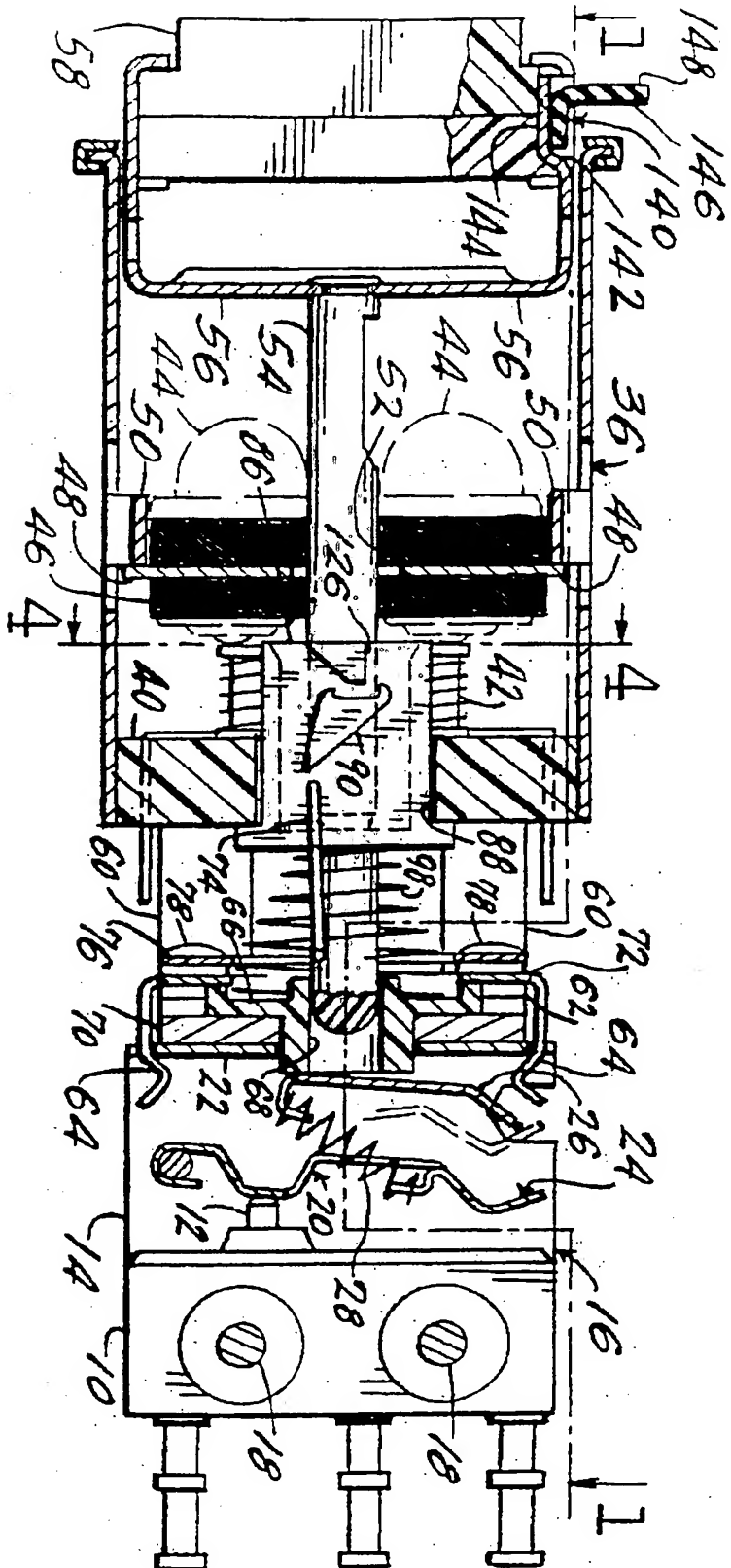


EXHIBIT A